AMENDMENTS TO THE SPECIFICATION

Changes to particular paragraphs in identified columns of the specification are shown below in accordance with 37 C.F.R. 1.173. Changes are shown by submission of the entire text of added and or rewritten paragraphs. Omitted matter is enclosed in brackets. Matter to be added is underlined.

In Column 3:

A1

[FIG. 5 is a cross-section of the automatic pet door taken along lines 1--1] FIG. 5 is a cross-section of the automatic pet door taken along lines 5--5 of FIG. 4.

In Column 3:

A2

[FIG. 6 is a vertical cross section of the automatic pet door taken along lines 2--2.] FIG. 6 is a vertical cross section of the automatic pet door taken along lines 6--6 of FIG. 5.

In Column 7:

A3 Cont.

[FIG. 4 is a schematic representation of the automatic pet door controlled by the transceiver of FIGS. 7(a) and (b) utilizing a transmitter arrangement identical to that of FIG. 2 wherein the transmitter of FIG. 7(a) is mounted within housing 72 and attached to a domestic animal by strap 76 with buckle 77 looping through the receiver casing and around the animal's neck. FIG. 16 shows a typical working circuit of one embodiment of the automatic pet door. Here there is no need to use discrete transistors in the receiver to conserve power since the device is ultimately powered by household alternating current.]

FIG. 4 illustrates an automatic pet door that is controlled by the transceiver of FIGS. 7(a) and (b). The door utilizes a transmitter arrangement identical to that of FIG. 2

wherein the transmitter of FIG. 7(a) is mounted within housing 72. For attachment, housing 72 is attached to strap 76 and strap 76 is looped around the animal's neck and secured with buckle 77 as discussed above. Receiver 82 is mechanically attached to pet door as shown in FIG. 4 and discussed below. With respect to the electrical configuration for receiver 82, FIG. 16B shows a typical working circuit of one embodiment of receiver 82 for the automatic pet door shown in FIG. 4. Note that for the pet door there is no need to use discrete transistors in the working circuit for the receiver to conserve power. This is because receiver 82 for the pet door is ultimately powered by household alternating current.

In Column 7:

[FIG. 5 shows that door casing 80 houses all of the elements of the receiver and door assembly. In this embodiment, an output device of FIG. 7(a) is a normally open relay 124, FIG. 16B, which routes power to motor 96, FIG. 5, when the transmitter signal is received by microphone 82. Movable panel 81, which is normally within opening 83 and completely obstructing it, is then guided upwards to allow the animal to pass through opening 83. FIG. 5 shows that door casing 80 of FIG. 4 is constructed by joining left frame member 90, right frame member 92, top frame member 91 and bottom frame member 93. Said frame members, in this embodiment, are custom wood moldings but, could easily be made from extruded aluminum or plastic. Grooves 94 and 95 shown in FIG. 6, in left and right frame members 90 and 92 respectively, act to guide movable panel 81 along its path. Electric motor 96 is held in position by mounting bracket 97 and drives spool 98, which is rigidly fixed to motor shaft 99 with set screw 100. Cable 101 is thereby wound around spool 98 upon the counter-clockwise motion of electric motor 96. Cable 101 is looped around pulley 102 and prevented from slipping off pulley 102 by cable guide 103. Pulley 102 and cable guide 103 are rigidly attached to movable panel 81 with shoulder screw 104. Cable 101 is then fed to one end of locking pin 105, looped through a hole in that end and held in place by cable crimp 106. Locking pin 105 is held in place by bracket 108 and allowed to translate linearly in holes 106 and 107. Bracket

108 is rigidly fixed to movable panel 81 by screws 109 and 110. Compression spring 111 fitted around stepped shaft of locking pin 107 act to push locking pin 107 toward left frame member 90 and into hole 101 thus, preventing the movable panel from being moved out of opening 83 while there is slack in cable 101 as when motor 96 is idle. Thus, it is not possible for an intruder to manually lift movable panel 81. As cable 101 is wound around spool 98 when motor shaft 99 is rotated, the weight of movable panel 81 acts to create tension in cable 101. Said tension acts against compression spring 111 pulling locking pin 107 away from left frame member 90 and out of hole 101 freeing movable panel 81 and allowing it to move upward with cable 101. Front and rear plates 112 and 113, FIG. 6, respectively are locked into grooves 127 and 114 respectively and act to enclose the assembly. Holes 115, 116, 117, 118, 119 and 120, FIG. 5, are provided to mount the assembly to a household door or wall.] Referring now to FIGS. 4-6, the pet door of the present invention is shown in greater detail. Specifically, door casing 80 is constructed by joining the opposing ends top frame member 91 to one end of left frame member 90 and one end of right frame member 92. The other respective ends of left frame member 90 and right frame member 92 are attached to opposing ends of bottom frame member 93 (See FIG. 5). With this configuration, the door casing defines a door opening 83, and movable panel 81 is slidably mounted to door casing 82 within door opening 83. To do this, vertical grooves (not shown) are formed in the respective inner surfaces of left frame member 90 and right frame member 92. These vertical grooves interfit with movable panel 81 and act to guide movable panel 81 vertically along its upward/downward path. Left frame member 90, right frame member 92, top frame member 91 and bottom frame member 98 are preferably custom wood moldings, but could easily be made from aluminum or plastic materials.

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Cont.

The pet door of the present invention further includes an electric motor 96 that is fixed to top frame member 91 with mounting bracket 97. Motor shaft 99 extends outwardly from motor 96, and spool 98 is rigidly fixed to motor shaft 99 with set screw 100 (See FIG. 5) so that spool 98 rotates with motor shaft 99 during operation. To raise and lower movable panel 81, cable 101 is attached to motor 96 and to movable panel 81.

More specifically, one end of cable 101 is attached to spool 98. Cable 101 is then looped around a pulley 102 and a cable guide 103 that are rigidly attached to movable panel 81 with shoulder screw 104. The other end of cable 101 is fed to one end of locking pin 105 and attached with cable crimp 106. Cable guide 103 prevents cable 101 from slipping off pulley 102 during operation of the pet door.

Pin bracket 108 is rigidly fixed to movable panel 81 by screws 109 and 110, and locking pin 105 is slidably mounted to bracket 108, as best seen in FIG. 5. This allows locking pin 105 to move in translation into locking pin hole 107 which is formed in left frame member 90. A compression spring 111 is fitted around locking pin 105 and biases locking pin 105 into locking pin hole 107, thus, preventing the movable panel from being moved out of door opening 83 while there is slack in cable 101. With this configuration, it is not possible for an intruder to manually lift movable panel 81.

Front and rear plates 112 and 114, FIG. 6, respectively interfit with grooves 127 and 113 and act to enclose the upper portion of the assembly. Door mounting holes 115-120, FIG. 5, are provided to mount the assembly to a household door or wall.

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During operation, receiver 82 receives an input signal that is received from the transmitter within transmitter housing 72 only when the pet is facing the pet door, as discussed above. Receiver 82 receives this signal, and, provided the received meets the predetermined parameters also discussed above, closes normally open relay 124, FIG. 16B, which further closes to route power to motor 96. As motor 96 is activated and rotates, attached spool 98 turns, and cable 101 is wound around spool 98 when motor shaft 99 is rotated. As cable 101 is wound around spool 98, a tension force is created in cable 101. The tension force in cable 101 counteracts and overcomes the force from compression spring 111 that biases locking pin 105 into locking pin hole 107. Accordingly, locking pin 105 is pulled out of locking pin hole 107 and away from left frame member 90, which frees movable panel 81 for upward movement as cable 101 is gathered around spool 98.

In Column 8:

[FIG. 16B further shows that the coil to relay 124 is energized upon sensing the ultrasonic signal. Timer 125 holds relay 124 on, providing power to motor 96, for a selected amount of time after the signal is lost. Electrical energy is stored in capacitor 123 on the counter-clockwise motion of motor 96 as movable panel 81 is hoisted upward. This same energy is released upon the deactivation of relay 124 providing a momentary surge of current to move motor 96 in the clockwise reverse direction in order to overcome any static friction in the system and start movable panel 81 on its downward path under the force of gravity.] FIG. 16B and 16C further show that the coil to relay 124 is energized upon sensing the ultrasonic signal. Timer 125 holds relay 124 on, providing power to motor 96, for a selected amount of time after the signal is lost. Electrical energy is stored in capacitor 123 on the counter-clockwise motion of motor 96 as movable panel 81 is hoisted upward. This same energy is released upon the deactivation of relay 124 providing a momentary surge of current to move motor 96 in the clockwise reverse direction in order to overcome any static friction in the system and start movable panel 81 on its downward path under the force of gravity.